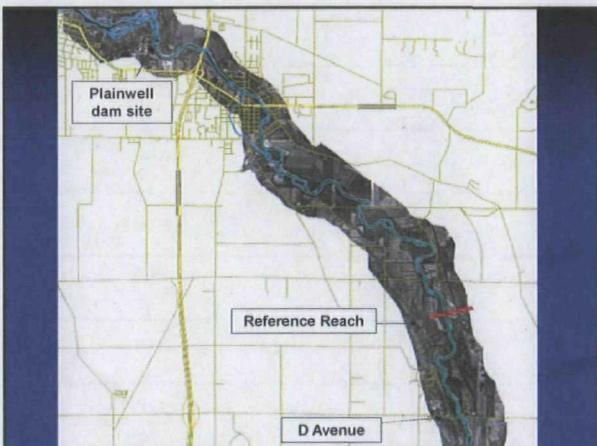


Preliminary Plainwell Dam Removal Site Channel Stability Assessment

May 6, 2010
Kalamazoo, MI

Goals

- Identify **reference reach** representing stable stream conditions within the Kalamazoo River
- Compare reference reach to existing transects at the former Plainwell impoundment site



Plainwell Transects

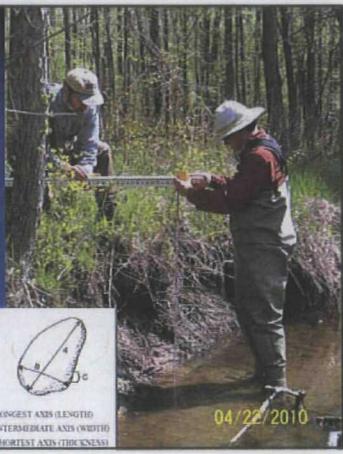


How Reference Reach Was Selected

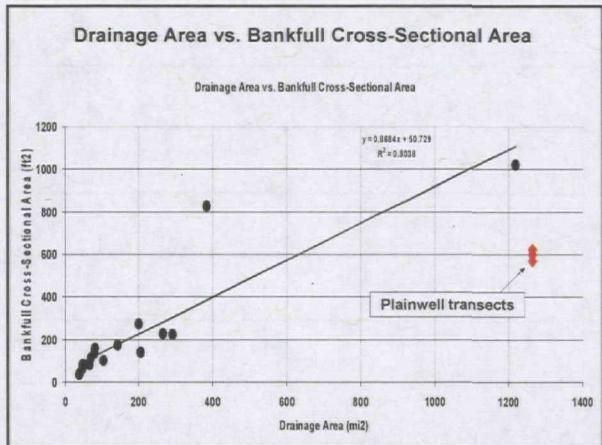
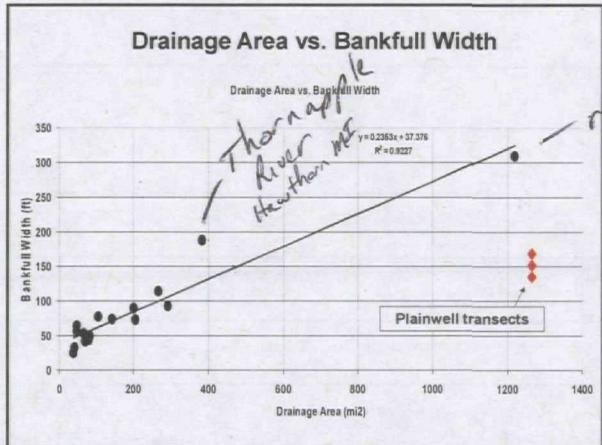
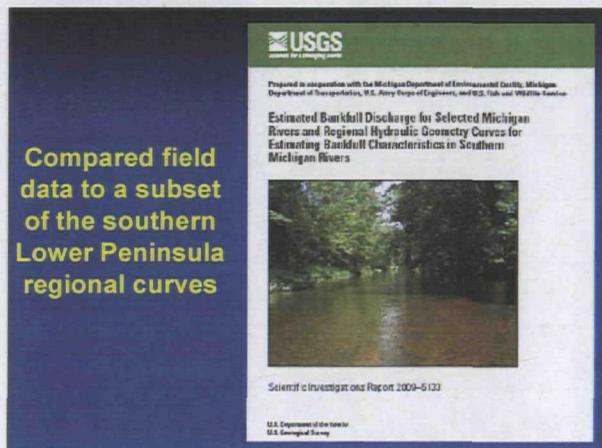
Physical Indicators

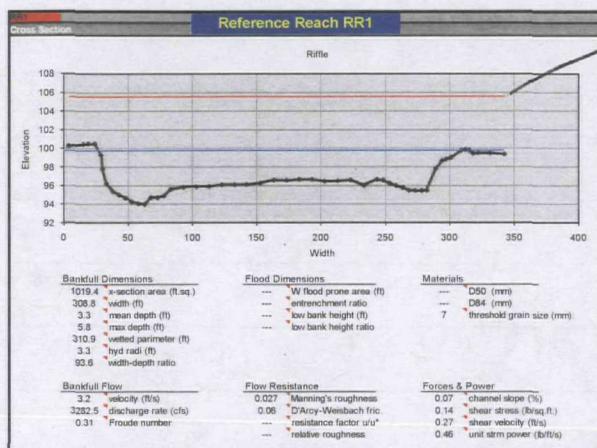
- Obvious riffle reach
- Consistent elevation of depositional flat at riffle crest (clear bankfull indicator), similar to other nearby reaches
- Stable bank vegetation
- Good channel habitat (riffle/cobble bottom)
- Low BEHI score
- Not affected by dams

What we did

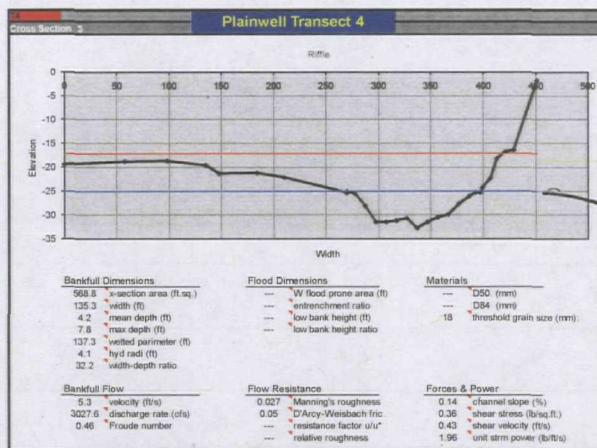


A = LONGEST AXIS (LENGTH)
B = INTERMEDIATE AXIS (WIDTH)
C = SHORTEST AXIS (THICKNESS)

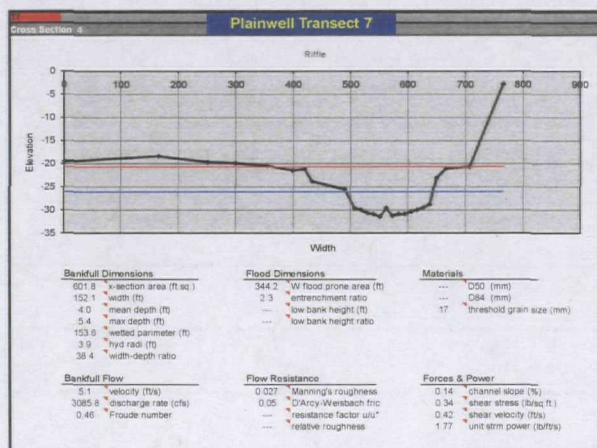


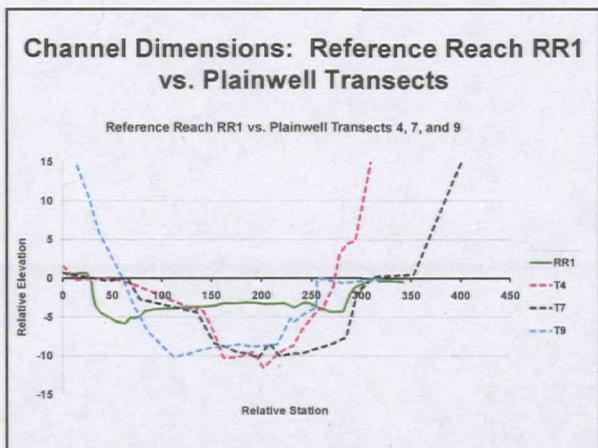
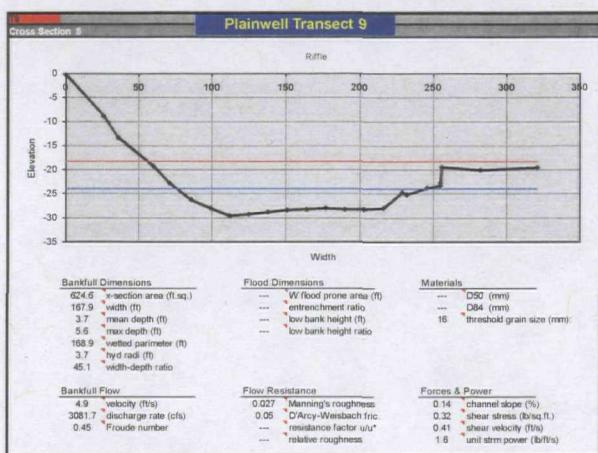


flood prone line



1.5 yr flow based on constant gauge





Recommendations

- Develop local reference curves specific to Kalamazoo River watershed
- Design post dam removal channels using Kalamazoo River reference curves
- Collect pebble count and long pro data at Plainwell, for other stability calculations
- Survey up into "floodplain", and measure at breaks in slope, in future Plainwell transect monitoring
- Install toe pins in Plainwell and reference reach to measure erosion rates